CORD
Algebra 2, Algebra II

Degree of Evidence regarding the Standards for Mathematical Practice:

Minimal Evidence

Summary of evidence:

1. **Make sense of problems and persevere in solving them**. There are some opportunities for students to explain in the Think and Discuss sections at the beginning of the practice problems (e.g. p. 247). There is a formulated problem-solving plan (one mention of the plan – p. 345). There are occasional open-ended questions, but students have no opportunity for reflection on answers. Students are asked to make graphs, tables, and equations but rarely all at the same time. Consequently, connections among these multiple representations are extremely limited. Overall, there are limited open-ended, problem-solving opportunities for students, and there is very limited opportunity for students to create a problem-solving plan and follow through or determine reasonableness.
2. **Reason abstractly and quantitatively**. Students are given the algorithm, and then examples follow demonstrating its use (e.g. p. 265). Occasionally, students are asked to create a model for an application (e.g. p. 383). Real-world application problems are mixed in the sections as well as in an application section at the end of the chapter; however, the questions are scripted and very limiting. There are limited to no opportunities for students to make sense of their answers in context of the situation. Most questions are solved by applying an algorithm, including the real-world application problems. Often, the questions are very leading and narrow.
3. **Construct viable arguments and critique the reasoning of others**. There are very limited opportunities for students to explain or justify their answers. The resource contains "critical thinking" areas in each section, and these areas occasionally have students justify their thinking. However, explanations and discussion of justification are very limited in the chapters reviewed. There are occasional opportunities for students to analyze errors, but they are not asked to justify or explain (e.g. p. 352 #27, p. 445 #28). In the chapters reviewed, there are limited to no opportunities for students to make and test conjectures. There are limited opportunities for students to justify their thinking. Communication opportunities in the resource are mainly for students to explain a procedure to answer a question – not to communicate a justification to other classmates.
4. **Model with mathematics**. There are some applications where students are asked to create mathematical models (e.g. p. 422). In the application questions, answers are in context. Occasionally, models are used for difficult mathematical concepts (e.g. completing the square with algebra tiles, p. 253). Overall, there are some opportunities for students to create mathematical models, and models are occasionally used to help students understand difficult mathematical ideas.
5. **Use appropriate tools strategically.** Graphing calculators are referenced in lessons (e.g. p. 245, p. 454), but in the chapters reviewed, there is no reference to technology other than the graphing calculator. Tools and technology are rarely used to investigate mathematics in the chapters reviewed, and there is no discussion of advantages or shortcomings of technology or tools.
6. **Attend to precision.** Examples use proper notation and are precise. In the chapters reviewed, examples of precise communication, for example a sample student conversation in the teacher's edition, are not present. Students are given some opportunities to share their methods of solution; however, this is only mentioned in the teacher resource. There is attention to precision in the examples, but no discussion for students to tackle.

7. **Look for and make use of structure**. Often, the rule is given, and then examples follow (e.g. pp. 249, 371). Some activities explore patterns to create generalizations (e.g. p. 343 – critical thinking). There are some opportunities for students to examine patterns, but they are not asked to generalize – instead the rule is given. Prior learning is rarely used as a building block for further learning. The resource does not move from specific examples to generalizations.
8. **Look for and express regularity in repeated reasoning.** Often students apply properties to several practice problems (e.g. p. 358). Patterns are rarely used to make generalizations. In the chapters reviewed, rarely, if ever, are students asked to discover shortcuts from repetitiveness, and there are very limited opportunities for students to generalize a pattern to determine a rule.